Data Sheet (Cat.No.TMPY-03406)

TargetMol

NMNAT1 Protein, Human, Recombinant (His)

General Information

Synonyms:	PNAT1;LCA9;nicotinamide nucleotide adenylyltransferase 1;NMNAT
Protein Construction:	A DNA sequence encoding the human NMNAT1 (Q9HAN9)(Met 1-Thr279) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9HAN9
Molecular Weight:	33.38 kDa (predicted); 34 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, 3 mM DTT, 10% glycerol, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

NMNAT, also known as NMNAT1, is a member of the Nicotinamide-nucleotide adenylyltransferases. It is widely expressed with high levels in skeletal muscle, heart, liver, and kidney. NMNAT appears to have the ability to protect against axonal degeneration following mechanical or toxic insults. The coenzyme NAD and its derivatives are involved in hundreds of metabolic redox reactions and are utilized in protein ADP-ribosylation, histone deacetylation, and in some Ca(2+) signaling pathways. NMNAT enzyme is vital for NAD biosynthesis, catalyzing the

condensation of nicotinamide mononucleotide (NMN) or nicotinic acid mononucleotide (NaMN) with the AMP moiety of ATP to form NAD or NaAD.

Reference

Sugano S. et al., 1994, Gene. 138 (1-2): 171-4.
Saccucci F. et al., 2001, J Biol Chem. 276 (1): 406-12.
Hennig K. et al., 2001, FEBS Lett. 492 (1-2): 95-100.